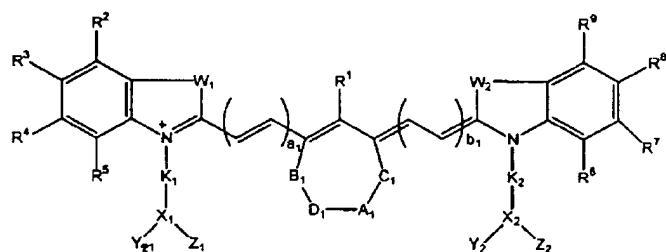


Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-7. (CANCELED)

8. (CURRENTLY AMENDED) A method for performing a tandem diagnostic and therapeutic procedure comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate of Formula 3



wherein W_1 and W_2 may be the same or different and are selected from the group consisting of $-CR^{10}R^{11}$, $-O-$, $-NR^{12}$, $-S-$, and $-Se$; Y_1 , Y_2 , Z_1 , and Z_2 are independently selected from the group consisting of hydrogen, tumor-specific agent, phototherapy agent, $-CONH-Bm$, $-NHCO-Bm$, $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^{12})-(CH_2)_b-CONH-Bm$, $-(CH_2)_a-N(R^{12})-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^{12})-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^{12})-(CH_2)_a-NHCO-Bm$, $-CH_2$

$-(CH_2OCH_2)_b-CH_2-N(R^{12})-CH_2-(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^{12})$
 $-CH_2-(CH_2OCH_2)_d-NHCO-Bm$, $-CONH-Dm$, $-NHCO-Dm$, $-(CH_2)_a-CONH-Dm$, $-CH_2$
 $-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$,
 $-(CH_2)_a-N(R^{12})-(CH_2)_b-CONH-Dm$, $-(CH_2)_a-N(R^{12})-(CH_2)_c-NHCO-Dm$, $-(CH_2)_a-N(R^{12})$
 $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^{12})-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$,
 $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^{12})-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^{12})$
 $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^{12})-CH_2-(CH_2OCH_2)_d-CONH-Dm$, $-CH_2-$
 $(CH_2OCH_2)_b-CH_2-N(R^{12})-CH_2-(CH_2OCH_2)_d-NHCO-Dm$, $-(CH_2)_a-N R^{12}R^{13}$, and
 $-CH_2(CH_2OCH_2)_b-CH_2N R^{12}R^{13}$; K_1 and K_2 are independently selected from the group
 consisting of C_1-C_{30} alkyl, C_5-C_{30} aryl, C_1-C_{30} alkoxy, C_1-C_{30} polyalkoxyalkyl, C_1-C_{30}
 polyhydroxyalkyl, C_5-C_{30} polyhydroxyaryl, C_1-C_{30} aminoalkyl, saccharide, peptide,
 $-CH_2(CH_2OCH_2)_b-CH_2-$, $-(CH_2)_a-CO-$, $-(CH_2)_a-CONH-$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-$,
 $-(CH_2)_a-NHCO-$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-$, $-(CH_2)_a-O-$, and $-CH_2-(CH_2OCH_2)_b$
 $-CO-$; X_1 and X_2 are single bonds, or are independently selected from the group
 consisting of nitrogen, saccharide, $-CR^{14}-$, $-CR^{14}R^{15}$, $-NR^{16}R^{17}$; C_5-C_{30} aryl; Q is a
 single bond or is selected from the group consisting of $-O-$, $-S-$, $-Se-$, and $-NR^{18}$; A_1 is a
 single or a double bond; B_1 , C_1 , and D_1 are independently selected from the group
 consisting of $-O-$, $-S-$, $-Se-$, $-P-$, $-CR^{10}R^{11}$, $-CR^{11}$, alkyl, $-NR^{12}$, and $-C=O$; A_1 , B_1 , C_1 , and
 D_1 may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered
 heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a_1
 and b_1 independently vary from 0 to 5; R^1 to R^{13} , and R^{18} are independently selected
 from the group consisting of hydrogen, C_1-C_{10} alkyl, C_5-C_{20} aryl, C_1-C_{10} alkoxy, C_1-C_{10}

polyalkoxyalkyl, C₁-C₂₀ polyhydroxyalkyl, C₅-C₂₀ polyhydroxyaryl, C₁-C₁₀ aminoalkyl, cyano, nitro, halogen, saccharide, peptide, -CH₂(CH₂OCH₂)_b-CH₂-OH, -(CH₂)_a-CO₂H, -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; R¹⁴ to R¹⁷ are independently selected from the group consisting of hydrogen, C₁-C₁₀ alkyl, C₅-C₂₀ aryl, C₁-C₁₀ alkoxy, C₁-C₁₀ polyalkoxyalkyl, C₁-C₂₀ polyhydroxyalkyl, C₅-C₂₀ polyhydroxyaryl, C₁-C₁₀ aminoalkyl, saccharide, peptide, -CH₂(CH₂OCH₂)_b-CH₂-, -(CH₂)_a-CO-, -(CH₂)_a-CONH-, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-, -(CH₂)_a-NHCO-, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-, -(CH₂)_a-O-, and -CH₂-(CH₂OCH₂)_b-CO-; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic, hormone, metal chelating agent, radioactive or nonradioactive metal complex, echogenic agent, photoactive molecule, and phototherapy agent; a and c independently vary from 1 to 20; b and d independently vary from 1 to 100; and

thereafter performing said tandem diagnostic and therapeutic procedure.

9. (ORIGINAL) The method for performing the diagnostic and therapeutic procedure of claim 8 which comprises administering to an individual an effective amount of the composition of cyanine dye bioconjugate wherein W₁ and W₂ are independently selected from the group consisting of -C(CH₃)₂, -C((CH₂)_aOH)CH₃, -C((CH₂)_aOH)₂, -C((CH₂)_aCO₂H)CH₃, -C((CH₂)_aCO₂H)₂, -C((CH₂)_aNH₂)CH₃, -C((CH₂)_aNH₂)₂,

-C((CH₂)_aNR¹²R¹³)₂, -NR¹², and -S-; Y₁ and Y₂ are selected from the group consisting of hydrogen, tumor-specific agent, -CONH-Bm, -NHCO-Bm, -(CH₂)_aCONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-NR¹²R¹³, and -CH₂(CH₂OCH₂)_b-CH₂NR¹²R¹³; Z₁ and Z₂ are independently selected from the group consisting of hydrogen, phototherapy agent, -CONH-Dm, -NHCO-Dm, -(CH₂)_a-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Dm, -(CH₂)_a-NHCO-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Dm, -(CH₂)_a-N R¹²R¹³, and -CH₂(CH₂OCH₂)_b-CH₂N R¹²R¹³; K₁ and K₂ are independently selected from the group consisting of C₁-C₁₀ alkyl, C₅-C₂₀ aryl, C₁-C₂₀ alkoxy, C₁-C₂₀ aminoalkyl, -(CH₂)_a-CO-, -(CH₂)_a-CONH, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-, -(CH₂)_a-NHCO-, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-, and -CH₂-(CH₂OCH₂)_b-CO-; X₁ and X₂ are single bonds, or are independently selected from the group consisting of nitrogen, -CR¹⁴-, -CR¹⁴R¹⁵, and -NR¹⁶R¹⁷; A₁ is a single or a double bond; B₁, C₁, and D₁ are independently selected from the group consisting of -O-, -S, -CR¹¹, alkyl, -NR¹², and -C=O; A₁, B₁, C₁, and D₁ may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a₁ and b₁ independently vary from 0 to 3; Bm is selected from the group consisting of bioactive peptide containing 2 to 30 amino acid units, protein, antibody fragment, mono- and oligosaccharide; bioactive peptide, protein, and oligosaccharide; Dm is selected from the group consisting of photosensitizer, photoactive molecule, and phototherapy agent; a and c independently vary from 1 to 20; b and d independently vary from 1 to 100.

10. (ORIGINAL) The method for performing the diagnostic and therapeutic procedure of claim 9 comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate wherein each W¹ and W² is -C(CH₃)₂; each K₁ and K₂ is -(CH₂)₄CO-; each X₁ and X₂ is a single bond; A₁ is a single bond; each B₁, C₁, and D₁ is -CH₂-; R¹ is Cl; each R² to R⁹, Y₁ and Z₁ is H; Y₂ is a tumor-specific agent; and Z₂ is a phototherapy agent.

11. (ORIGINAL) The method for performing the diagnostic and therapeutic procedure of claim 10 comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate wherein the said tumor-specific agent is a bioactive peptide containing 2 to 30 amino acid units.

12. (ORIGINAL) The method for performing the diagnostic and therapeutic procedure of claim 11 comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate wherein the said tumor-specific agent is octreotide and bombesin (7-14).

13. (ORIGINAL) The method for performing the diagnostic and therapeutic procedure of claim 10 comprising administering to an individual an effective amount of the composition of cyanine dye bioconjugate wherein the said phototherapy agent is a photosensitizer.